

**Comments on “Summary of Data Quality Objectives (DQO) Process – Groundwater Investigation South Dayton Dump and Landfill Site Moraine, Ohio”**

1. **General Comment:** The DQOs present a generic groundwater investigation approach that is not specific to all of the conditions at South Dayton Dump that will require investigation. However, if these DQOs are retained for future use, Step 7, which is developing the actual sampling plan, is still inadequate—even for this generic investigation—and needs to be completed in more detail before additional review comments can be made.
2. **General Comment:** It is unclear how the DQOs relate to the presumptive remedy of groundwater containment. If these DQOs are meant to specifically address the presumptive remedy for OU1, as defined in the Draft Streamlined RI/FS for OU1, this should be explicitly stated and the data need to be revised to address that remedy.
3. **General Comment:** Assuming the DQOs are meant to address the presumptive remedy, it would only be necessary to demonstrate that contaminated groundwater has migrated offsite rather than delineating the extent of contaminated groundwater that has migrated offsite. If other applicable receptor pathways will also be investigated, such as groundwater to vapor intrusion or soil leaching to groundwater, additional onsite investigations would be necessary. If these additional pathways are to be assessed, additional Problem Statements and DQOs will be required.

The PRPs have also stated in the past that remediation of any groundwater sources may be a preferable alternative to physical groundwater containment. To address that possibility, specific DQOs should have a problem statement relating to characterizing sources sufficiently to develop remedy decisions. Although remediation of source areas is mentioned in the Alternate Actions or Outcomes section (2ii), the planning for acquisition of data for this purpose should be included in the DQOs.

4. **Specify Action Level, Phase 1A:** This specifies a cancer risk of 1E-4 to 1E-6; however, the Basis of Action Level section specifies 1E-6.
5. **Steps 6ii.a and 6iii, Phase 1A:** These steps state that action levels will be compared to maximum values. The action levels will be compared to all values rather than just the maximum values in order to evaluate various areas of contamination. In other words, all exceedences should be identified.
6. **Step 1i, Phase 2A:** The last sentence is incomplete (“a minimum of two rounds of VAS”).
7. **Step 2ii, Phase 2A:** “If site-related plumes identified in Phase 1 do not extend to within 100 ft<sup>(2)</sup> of the site boundary, this Phase 2 investigation is not required.” As referenced by the footnote in this statement, this 100-foot distance is suggested in USEPA guidance for vapor intrusion purposes, and as stated in the footnote, “VOC emissions tend to be insignificant at lateral distances of approximately 100 feet *transgradient* to groundwater flow from a source.” If this particular metric were to be applied to a vapor intrusion pathway (which is not in these DQOs), then the metric would only be applied to portions of the site boundary transgradient to the respective sources. However, the alternate outcomes and actions discussed apply only to

contaminated groundwater migrating offsite and the need to contain it; so while the 100-foot buffer may be sufficient for containment purposes, the reference to vapor intrusion guidance is not relevant.

8. The alternate outcomes or actions need to address a temporal component of contaminated groundwater plume definition—i.e., is the plume stable, shrinking, or actively migrating toward a site boundary? To address this, Phase 1B should evaluate concentration trends.
9. **Step 6.iii, Phase 1B and 2B:** “For comparisons to upgradient conditions, the gray region will be set equal to a difference in means (on-site and upgradient) of one standard deviation.” This statistical method of evaluating upgradient VOCs must be justified. Additionally, how will this be incorporated into the conceptual model item that historical groundwater pumping may have pulled VOCs north from the site and the degradation products flowing back south to the site?